Device Modeling Report

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PART NUMBER:BT152B-800R
MANUFACTURER: PHILIPS SEMICONDUCTOR

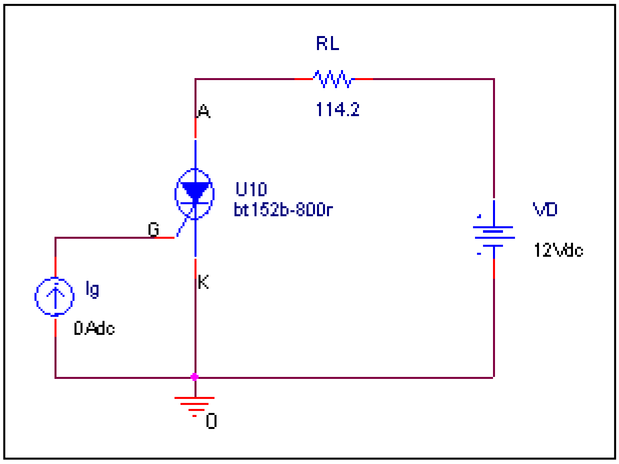
Bee Technologies Inc.

DIODE MODEL

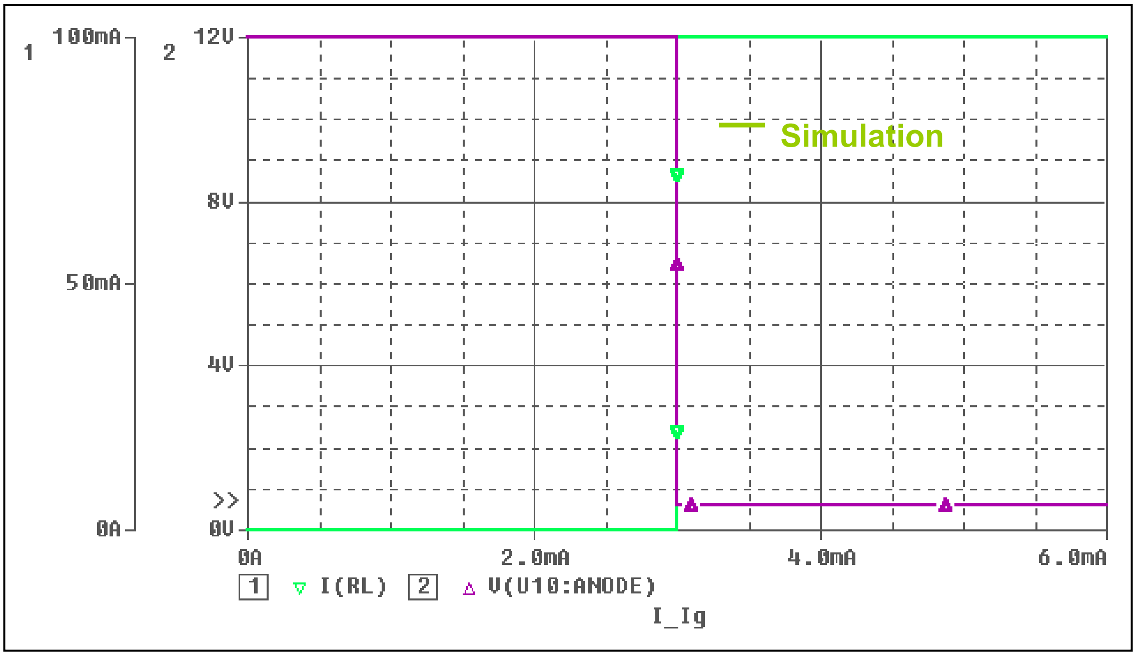
Pspice model Parameter	Model description
IS	Saturation Current
N	Emission Coefficient
RS	Series Resistance
IKF	High-injection Knee Current
CJO	Zero-bias Junction Capacitance
M	Junction Grading Coefficient
VJ	Junction Potential
ISR	Recombination Current Saturation Value
BV	Reverse Breakdown Voltage(a positive value)
IBV	Reverse Breakdown Current(a positive value)
TT	Transit Time

IG-VT Characteristic

Evaluation Circuit



Simulation result

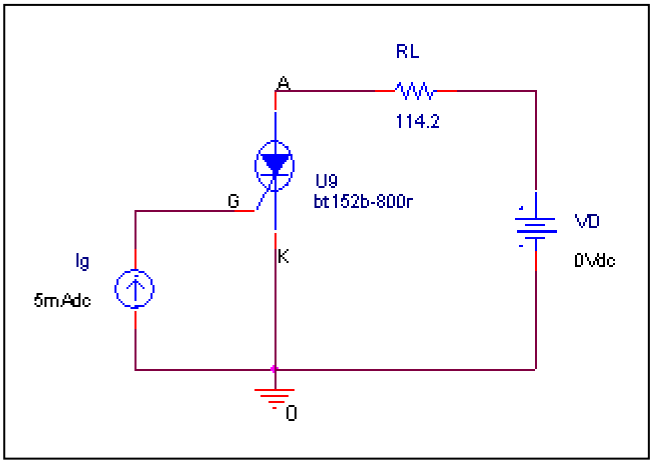


Comparison Table

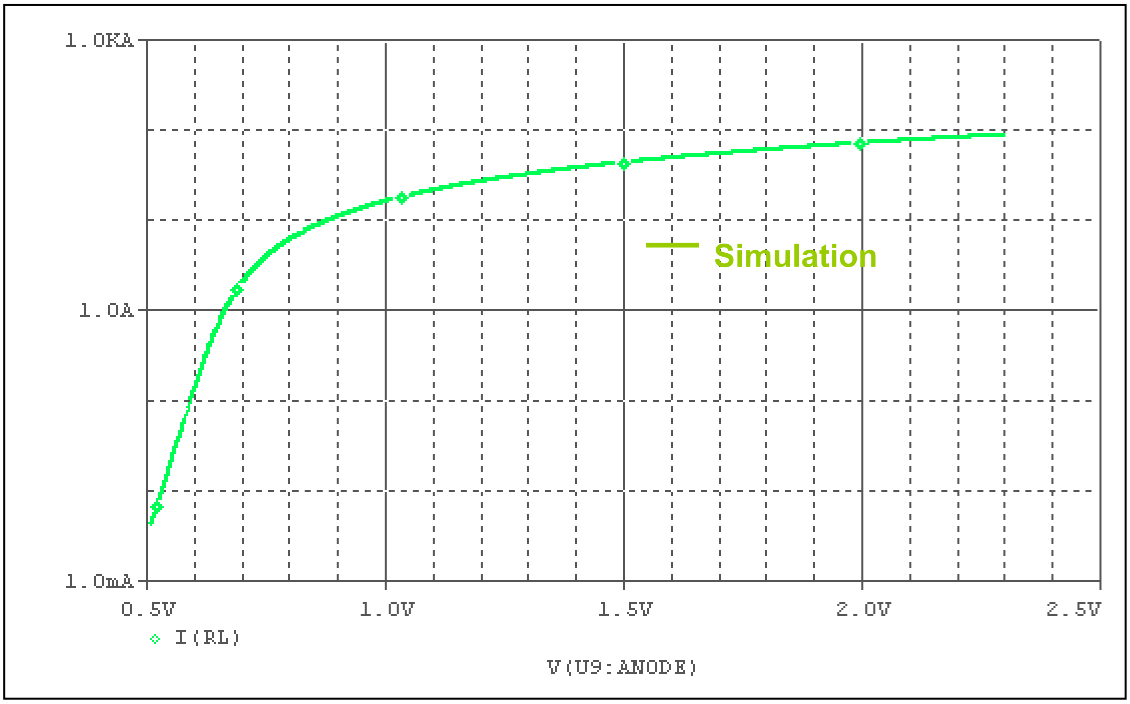
	Measurement	Simulation	% Error
IG_T (mA)	3	2.9934	-0.22000
V_{GT} (V)	0.6	0.591412	-1.43133

ITM-VTM Characteristic

Evaluation Circuit



Simulation result

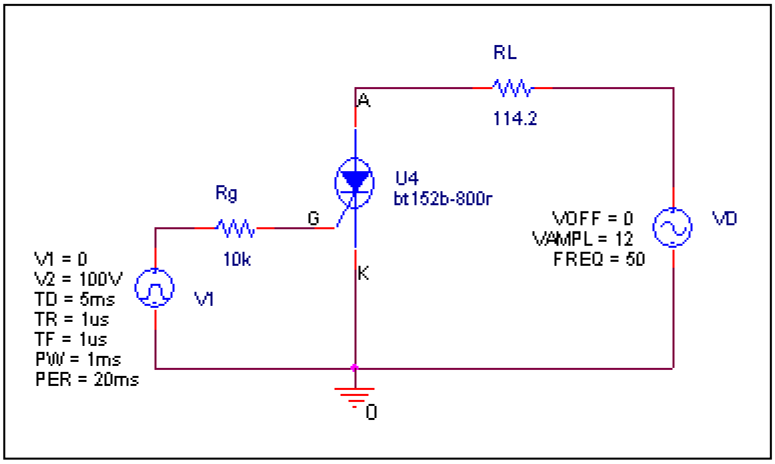


Comparison Table

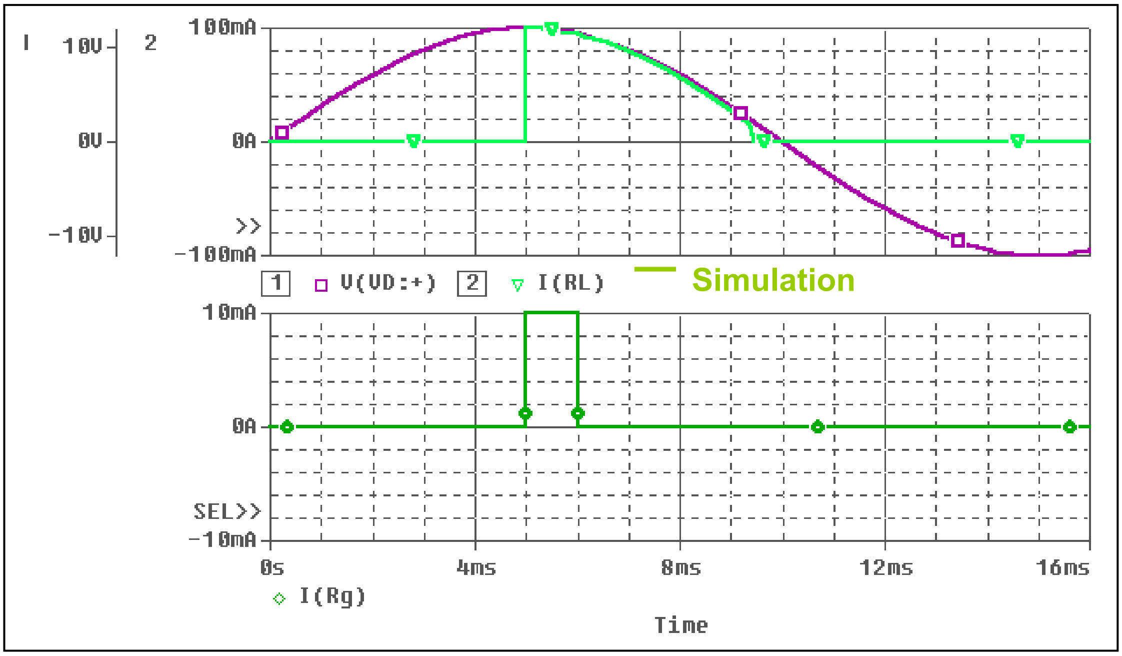
At ITM=40A	Measurement	Simulation	% Error
VTM(V)	1.4	1.4464	3.31429

Holding Characteristic (IH)

Evaluation Circuit



Simulation result

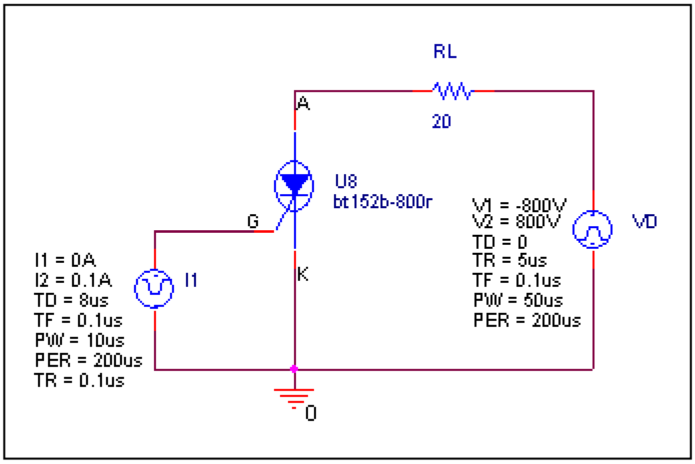


Comparison Table

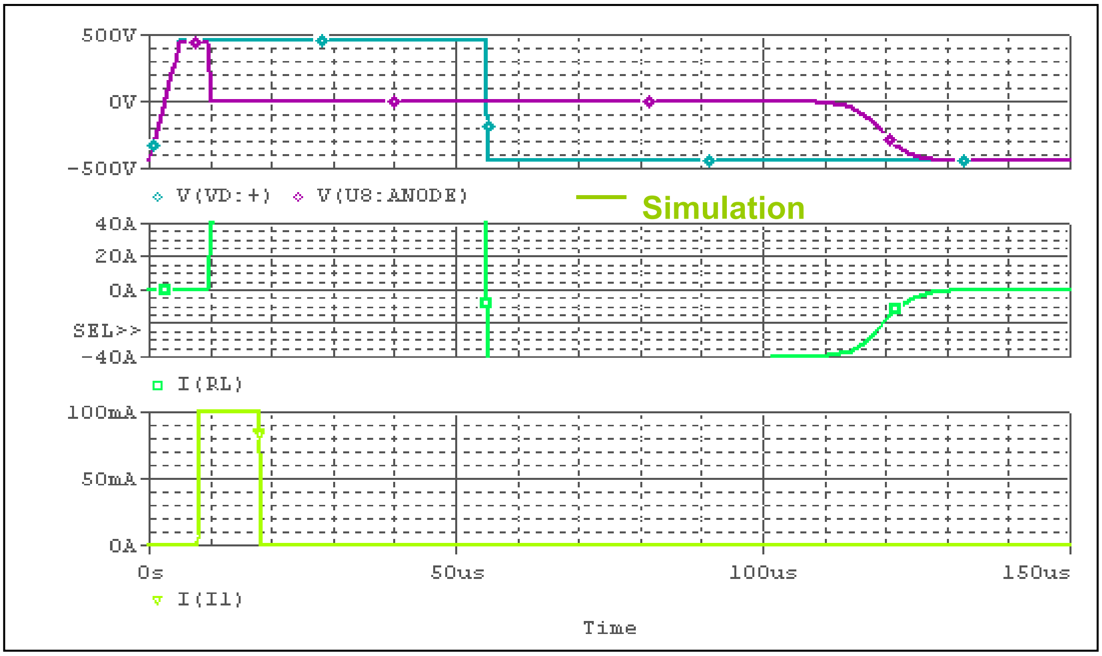
VD=12V	Measurement	Simulation	% Error
IH(mA)	15	15.305	2.03333

Switching Time Characteristic

Evaluation Circuit



Simulation result



Comparison Table

	Measurement	Simulation	%Error
Ton(us)	2	2.0232	1.16000
Toff(us)	70	70.913	1.30429